Case 3612

Onitis aeruginosus Klug, 1855 (Insecta, Coleoptera, SCARABAEIDAE): proposed conservation of the specific name

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Abstract. The purpose of this application, under Articles 23.9.3, 23.9.5 and 81.2.1 of the Code, is to conserve the specific name *Onitis aeruginosus* Klug, 1855. Although *Onitis aeruginosus* Perty, 1830 and *Onitis aeruginosus* Klug, 1855 are primary homonyms, both names are in use today and have not been considered congeneric since 1859, when the senior homonym was transferred to the genus *Gromphas* Brullé, 1837. As the probability of these being considered congeneric in the future is very small, it is proposed that *Onitis aeruginosus* Klug, 1855 be conserved by ruling that it is not invalid by reason of being a primary junior homonym of *Onitis aeruginosus* Perty, 1830. A third homonym, *Onitis aeruginosus* Gistel, 1831, also has priority over *Onitis aeruginosus* Klug, 1855, but cannot be fixed to any species; therefore, it should be considered a nomen dubium and totally suppressed for the purposes of the Principle of Priority and of the Principle of Homonymy.

Keywords. Nomenclature; taxonomy; Insecta; Coleoptera; SCARABAEIDAE; *Onitis*; *Gromphas*; *Onitis aeruginosus*; *Gromphas aeruginosa*; dung beetles; Neotropical region; Afrotropical region.

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1. Fabricius (1798, pp. 2, 25) established *Onitis* for eight species. Perty (1830, pp. 39, 40) studied the material collected by the naturalists Johann Baptist von Spix and Karl Friedrich Philipp von Martius in their long expedition through Brazil and described two new species for the genus: *O. aeruginosus* and *O. chalcomelas*, both from the current Brazilian states of São Paulo and Minas Gerais. Lacordaire (1856, p. 105, footnote) considered the two species distinct from other *Onitis* and suggested that both should be transferred to a new genus related to *Gromphas* Brullé, 1837. Harold (1859, pp. 198, 199) followed Lacordaire and removed these species from *Onitis*, but transferred each to a different New World genus: *O. chalcomelas* to *Phanaeus* MacLeay, 1819 and *O. aeruginosus* to *Gromphas*. After Harold's action, no author has returned either of these two South American species to the genus *Onitis*. *Gromphas aeruginosa* (Perty, 1830) is a common species, but the type locality in southeastern Brazil cited by Perty is certainly incorrect since this species is exclusively found in the Amazon region. The lectotype of *O. aeruginosus* was designated by Scherer (1983, p. 298) and is deposited in Zoologische Staatssammlung München (ZSMC), Munich, Germany (Michael Balke, pers. comm.).

2. Gistel (1831, p. 306) described a new species named *Onitis aeruginosus* from Brazil. However, his description is too vague and, albeit consistent with *Gromphas*

aeruginosa (Perty), it also fits equally well several other South American species of SCARABAEINAE. Also, the whereabouts of the type specimen of *O. aeruginosus* Gistel is unknown. It is possible that portions of the Gistel collection are scattered throughout several other collections; some specimens were located in ZSMC and in the Hope Entomological Collections, University Museum, Oxford, U.K. (OXUM) (Evenhuis, 1997, p. 304). Nevertheless, the type specimen of *O. aeruginosus* Klug is certainly not housed in either of these collections (Darren Mann, OXUM, pers. comm.; Scherer, 1982, p. 59, 1992, p. 64) or in any other known location. For this reason, it is impossible to refer the name *Onitis aeruginosus* Gistel, 1831 to any species and the name is here considered a nomen dubium. It has not been cited by any author since 1831. (In the literature, both spellings "Gistel" and "Gistl" appear. Here, the orthography 'Gistel' is adopted following Evenhuis (1997, p. 303)).

3. Klug (1855, p. 651) described four new African species of *Onitis*: *O. lycophron*, *O. uncinatus*, *O. fulgidus* and *O. aeruginosus*. Seven years later, Klug (1862, pp. 222–224) redescribed these species in more detail. Although a primary junior homonym of *O. aeruginosus* Perty, 1830, the name *O. aeruginosus* Klug, 1855 has always been regarded as valid, including in the revision of the Sub-Saharan species of *Onitis* by Ferreira (1978, p. 207). *Onitis aeruginosus* Klug, 1855 is found in the Afrotropical region, with records from Ethiopia, Democratic Republic of the Congo and Mozambique (Ferreira, 1978, p. 209). The type locality is Sena, Mozambique (Klug, 1855, p. 651; 1862, p. 224). The holotype is deposited in Museum für Naturkunde (ZMHB), Berlin, Germany (Joachim Willers, pers. communication).

4. Although originally described in the same genus, *Onitis aeruginosus* Perty and *O. aeruginosus* Klug were considered congeneric for only four years between 1855 and 1859. Today, their respective genera are classified into distinct tribes (*Gromphas* in PHANAEINI and *Onitis* in ONITINI) and occur in distinct biogeographic regions (*Gromphas* in the Neotropical region and *Onitis* in the Palaearctic, Afrotropical and Oriental regions). Also phylogenetic studies indicate a great distance between these two genera (Philips et al., 2004). Hence the possibility of their being regarded as congeneric again in the future is extremely small. *Onitis aeruginosus* Klug, the primary junior homonym, has no known available synonym and thus there is no pre-existing name to replace it. In order to maintain stability, under Article 23.9.5 of the Code, it is preferable to maintain both names as they are used today rather than to propose a replacement name for *Onitis aeruginosus* Klug.

5. *Onitis aeruginosus* Gistel, 1831 also has priority over *Onitis aeruginosus* Klug, 1855. Article 23.9.1 of the Code cannot be invoked in this case, because whereas the conditions of Article 23.9.1.1 have been met (*Onitis aeruginosus* Gistel was not cited after 1831), those of Article 23.9.1.2 have not. A possible alternative would be to designate the lectotype of *O. aeruginosus* Perty as neotype of *O. aeruginosus* Gistel and thus make the latter name as junior objective synonym of the former. However, this action is not appropriate and should not be taken because *O. aeruginosus* Perty and *O. aeruginosus* Gistel are only distantly related and there is nothing besides the homonymy that connects them, and especially because *Gromphas* (the current genus of Perty's species) already has many nomenclatural problems (some of which were first pointed out by Figueroa et al. (2012, p. 2) and are under my current scrutiny) and this synonymy would just add one more unnecessary problem. Thus, in order to

maintain stability and avoid any confusion, the name *O. aeruginosus* Gistel, 1831 should be suppressed under Articles 23.9.3 and 81.2.1 of the Code.

6. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to rule that the name *Onitis aeruginosus* Klug, 1855 is not invalid by reason of being a junior primary homonym of *Onitis aeruginosus* Perty, 1830;
(2) to use its plenary powers to suppress the name *Onitis aeruginosus* Gistel, 1831 for the purposes of both the Principle of Priority and the Principle of Homonymy;
(3) to place on the Official List of Specific Names in Zoology the following names:
    (a) *aeruginosus* Klug, 1855, as published in the binomen *Onitis aeruginosus*, with the endorsement that it is not invalid by reason of being a junior primary homonym of *Onitis aeruginosus* Perty, 1830;
    (b) *aeruginosus* Perty, 1830, as published in the binomen *Onitis aeruginosus*;
(4) to place on the Official Index of Rejected and Invalid Specific Names in Zoology the name *aeruginosus* Gistel, 1831, as published in the binomen *Onitis aeruginosus* and as suppressed in (2) above.

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